

Patent
Serial No. 10/522,298
Amendment in Reply to Office Action of April 19, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of controlling in a disc drive apparatus of a type comprising:
 - ~~radially displaceable scan means, comprising:~~
 - a sledge radially displaceable with respect to an apparatus frame; and
 - a platform radially displaceable with respect to said sledge;
 - ~~the method of controlling comprising the acts of: for detecting a substantial deceleration or acceleration or stop of the sledge when moving radially;~~
 - ~~the method of detecting comprising another act step of detecting a radial displacement of said platform with respect to said sledge.~~

2. (Currently Amended) A method according to claim 1, for use in a disc drive apparatus comprising an electromagnetic device in an actuator for displacing said platform with respect to said sledge, ~~wherein the method of detecting comprises the step of an act of detecting a back-EMF in said electromagnetic device in an actuator for displacing said platform with respect to said sledge.~~

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3. (Currently Amended) A method according to claim 1, for use in a disc drive apparatus comprising an optical system for scanning a disc, the optical system defining an optical path of which at least a part is substantially fixed with respect to the sledge and comprising an optical element which is fixed with respect to the platform,

the method comprising the step an act of detecting an optical read signal (s_R) and deriving therefrom from the optical read signal an X-displacement signal (s_{x_D}).

4. (Currently Amended) A method according to claim 1, wherein it is determined that detecting the substantial deceleration or acceleration or stop of the said sledge occurs when a detected comprises detecting a radial displacement of said platform with respect to said sledge exceeds a predetermined decision threshold (Th).

5. (Currently Amended) A method according to claim 2, wherein an actuator is activated such as to counteract a radial displacement of said platform with respect to said sledge, the method comprising the step an act of detecting an actuator control signal activated to counteract the radial displacement of said platform with respect to said sledge (s_{cp}).

6. (Currently Amended) A method according to claim 5, wherein it is determined that detecting a substantial deceleration or acceleration or stop of said the sledge occurs when the detected

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comprises an act of detecting an actuator control signal (S_{CG})
exceeds a predetermined decision threshold-(Th).

7. (Currently Amended) A method for initializing ~~the~~ radial position of an optical lens in a start-up phase of a disc drive apparatus, the method comprising ~~the steps~~acts of:

- exerting a force (F) on said sledge;
- detecting ~~the~~ substantial deceleration or stop of the sledge using ~~the~~ method of detecting according to claim 1; and
- stopping said force (F) as soon as a substantial radial displacement of said platform with respect to said sledge is detected.

8. (Currently Amended) Disc drive apparatus, comprising:

- a radially displaceable scan means, comprising:
- a sledge radially displaceable with respect to an apparatus frame;
- a platform radially displaceable with respect to said sledge;
- said apparatus further comprising:
- sledge stop detection means for detecting that ~~the~~ said ~~the~~ moving sledge comescoming to a standstill~~stop~~;
- said sledge stop detection means comprising radial displacement detection means for detecting a radial displacement of said platform with respect to said sledge.

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9. (Currently Amended) Apparatus The apparatus according to claim 8, further comprising:

- an electro-motive platform actuator for displacingconfigured to displace said platform with respect to said sledge;

wherein said radial displacement detection means are designed to detect a back-EMF in said electro-motive platform actuator.

10. (Currently Amended) Apparatus The apparatus according to claim 8, further comprising:

- an optical system for scanning a disc, the optical system defining an optical path of which at least a part is substantially fixed with respect to the sledge and comprising an optical element which is fixed with respect to the platform;

wherein said radial displacement detection means are designed to detect an optical read signal $\{s_r\}$ and to derive therefrom from the optical read signal an X-displacement signal $\{s_{x0}\}$.

11. (Currently Amended) Apparatus The apparatus according to claim 8, wherein said radial displacement detection means are designed to determine that a substantial deceleration or acceleration or stop of the sledge occurs when a detected radial displacement of said platform with respect to said sledge exceeds a predetermined decision threshold $\{T_d\}$.

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12. (Currently Amended) Apparatus The apparatus according to claim 8, further comprising:

- a controllable platform actuator associated with said sledge and said platform ~~for configured to~~ radially displacing ~~displace~~ said platform with respect to said sledge in response to an actuator control signal;
- a control unit generating ~~configured to generate~~ a platform control signal (S_{CP}) for said platform actuator such as to counteract a radial displacement of said platform with respect to said sledge;

wherein said radial displacement detection means are designed to detect said actuator control signal (S_{CP}).

13. (Currently Amended) Apparatus The apparatus according to claim 12, wherein said radial displacement detection means are designed to determine that a substantial deceleration or acceleration or stop of ~~said~~ the sledge occurs when a detected actuator control signal (S_{CP}) exceeds a predetermined decision threshold (Th).

14. (Currently Amended) Apparatus according to claim 8, further comprising:

- a controllable sledge actuator ~~for moving~~configured to move ~~said~~ the sledge radially with respect to said apparatus frame;
- a control unit ~~for controlling~~configured to control said sledge actuator;

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 | said control unit being responsiveconfigured to respond
 | to said radial displacement detection means to switch off said
 | sledge actuator when said radial displacement detection means
 | indicateindicates that said moving-sledge has come to a
 | standstill stop.

15. (Currently Amended) Apparatus according to claim 14, wherein a displacement range of said sledge with respect to said apparatus frame is restricted by at least one end stop;

 | wherein said control unit is designed, in an initializing
 | phase, to energize said sledge actuator such as to move said sledge
 | towards said end stop;

 | and wherein said control unit switchesis configured to
 | switchoff said actuator as soon as said sledge has reached said
 | end stop.